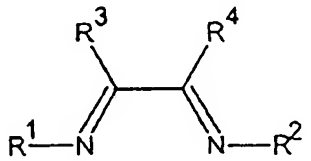
PRESENT CLAIMS AS AMENDED UNDER 37 CFR § 1.111

Claims 1-14 (canceled)

15. (currently amended) A 1,2-diimine of the formula (I),



(I)

where the symbols have the following meanings:

R^1 is a radical of the formula NR^5R^6,

R^2 is a radical of the formula NR^5R^6 or an alkyl, aryl or cycloalkyl radical,

R^5 and R^6 together with the N atom form a 5-, 6- or 7-membered ring in which one or more of the -CH-or $-CH_2-$ groups may be replaced by appropriate heteroatom groups and which may be saturated or unsaturated and unsubstituted, substituted or fused with further

carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated or substituted or unsubstituted,

and

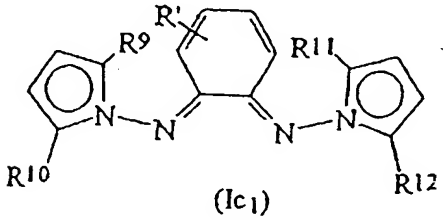
R^3 and R^4 together with the two imine carbon atoms from a carbocyclic or heterocyclic 5- to 8-membered ring which may be saturated or unsaturated and unsubstituted, substituted or fused with further carboxylic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated and which are substituted.

16. (previously presented) A compound as claimed in claim 15, wherein the radicals of the formula NR^5R^6 are pyrrole radicals or radicals derived from pyrrole, where one or more -CH- groups in the pyrrole ring may be replaced by nitrogen, which may be unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated and substituted or unsubstituted.

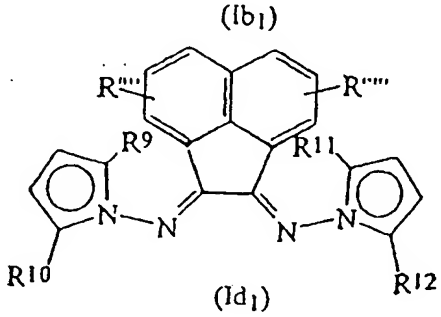
17. (previously presented) A compound as claimed in claim 16, wherein the pyrrole radicals or radicals derived from pyrrole are substituted in the 2 and 5 positions by C_1-C_6-alkyl groups, which may be linear, branched or substituted by

heteroatoms, and/or aryl groups which may be unsubstituted or in turn substituted by C_1-C_6-alkyl groups which may be heteroatom-substituted.

18. (currently amended) A compound as claimed in claim 17 which has one of the formula (Ic1) or (Id1):



(Ic1)



(Id1)

where R^9, R^{10}, R^{11} and R^{12} are, independently of one another, C_1-C_6-alkyl radicals

and

R', R'''' are H or alkyl, cycloalkyl or aryl, and R'''' is alkyl, cycloalkyl or aryl

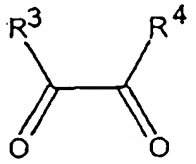
19. (previously presented) A process for preparing symmetrical compounds of the formula (I) as claimed in claim 15 in which R^1=R^2 by reacting compounds of the formula (II)

$$H_2N\text{-}NR^5R^6 \qquad (II)$$

where

R^5 and R^6 together with the N atom form a 5-, 6- or 7-membered ring in which one or more of the -CH- or -CH_2- groups may be replaced by appropriate heteroatom groups and which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated or substituted or unsubstituted,

with 1,2-diketo compounds of the formula (III)



(III)

where

R^3, R^4 are, independently of one another, H or alkyl, cycloalkyl or aryl radicals

or

R^3 and R^4 together with the two carbonyl carbon atoms form a carbocyclic or heterocyclic 5- to 8-membered ring which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated and substituted or unsubstituted

in a single-stage process under acidic reaction conditions in alcoholic solution or in the presence of a trialkylaluminum catalyst in an aprotic solvent in a ratio of the compound of the formula (II) to the compound of the formula (III) of 2:0.7-1.3.

20. (previously presented) A process for preparing unsymmetrical compounds of the formula (I) as claimed in claim 15 in which $R^1 \neq R^2$ in a two-stage process in which:

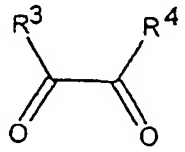
a) compounds of the formula (II)

$H_2N\text{-}NR^5R^6$ (II)

where

R^5 and R^6 together with the N atom form a 5-, 6- or 7-membered ring in which one or more of the -CH- or $-CH_2-$ groups may be replaced by appropriate heteroatom groups and which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated or substituted or unsubstituted,

are reacted in a first step with 1,2-diketo compounds of the formula (III)



(III)

where

R^3, R^4 are, independently of one another, H or alkyl, aryl or cycloalkyl radicals

or

R^3 and R^4 together with the two carbonyl carbon atoms form a carbocyclic or heterocyclic 5- to 8-membered ring which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated and substituted or unsubstituted

in a ratio of the compounds of the formula (II) to the compounds of the formula (III) of 1:0.8-1.2 under acidic reaction conditions in alcoholic solution to form the corresponding monoimine and the solvent is subsequently removed under reduced pressure,

and

b) the monoimine is reacted in a second step with compounds of the formula (II) which are different from the compounds of the formula (II) used in step a), or with compounds of the formula (IV)

$$H_2N\text{-}NR^7R^8 \qquad (IV)$$

where R^7 and R^8 are, independently of one another, alkyl, aryl or cycloalkyl radicals, or

with amines of the formula (V)

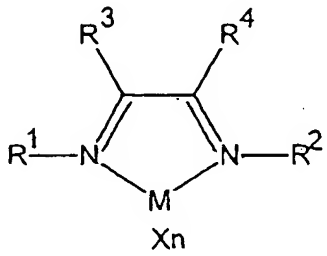
$$R^{13}\text{-}NH_2 \qquad (V)$$

where

R^{13} is an alkyl radical, an aryl radical or a cycloalkyl radical,

in an aprotic solvent, in the presence of a trialkylaluminum catalyst, in a ratio of the monoimine to a compound of the formula (II), (IV) or (V) of 1:0.8-1.2.

21. (currently amended) A compound of the formula (VI),



(VI)

where the symbols have the following meanings:

R^1 is a radical of the formula NR^5R^6,

R^2 is a radical of the formula NR^5R^6 or an alkyl, aryl or cycloalkyl radical,

R^5 and R^6 together with the N atom form a 5-, 6- or 7-membered ring in which one or more of the -CH- or $-CH_2-$ groups may be replaced by appropriate heteroatom groups and which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated or substituted or unsubstituted,

and

R^3 and R^4 together with the two imine carbon atoms form a carbocylic or heterocyclic 5- to 8-membered ring which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated and which are substituted;

M is a transition metal of group 8, 9 or 10 of the Periodic Table of the

Elements.

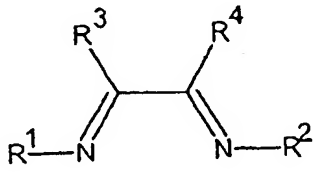
and

X is a halide or a C_1-C_6-alkyl radical;

n is the valence of the metal M.

22. (previously presented) A compound as claimed in claim 21, wherein M=Pd or Ni and n=2 or 3.

23. (previously presented) A process for preparing compounds of the formula (VI) as claimed in claim 21 by reacting corresponding compounds of the formula (I).



(I)

where R^{1-4} are defined as for formula (VI),

with salts of transition metals of groups 8, 9 and 10 of the Periodic Table of the Elements.

24. (previously presented) A process for preparing polyolefins by polymerization of unsaturated compounds in the presence of an activator and a compound of the formula (VI) as claimed in claim 21 as catalyst.

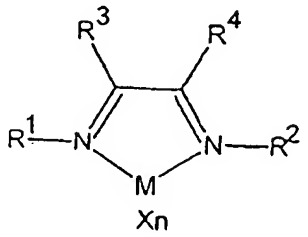
25. (previously presented) A process as claimed in claim 24, wherein the catalyst is present in homogeneous form in solution or in heterogeneous form immobilized on a support in the polymerization.

26. (previously presented) A process as claimed in claim 24, wherein methylaluminoxane or N,N-dimethylanilinium tetrakis(pentafluorophenyl)borate is used as activator.

27. (previously presented) A process as claimed in claim 24, wherein an unsaturated compound or a combination of unsaturated compounds selected from among ethylene, C_3-C_{20}-monoolefins, cycloolefins and propylene is used.

28. (previously presented) A polyolefin which can be prepared by a process as claimed in claim 24.

29. (previously presented) A compound of the formula (VI).



(VI)

where the symbols have the following meanings:

R^1 is a radical of the formula NR^5R^6,

R^2 is a radical of the formula NR^5R^6,

R^5 and R^6 together with the N atom form a 5-, 6- or 7-membered ring in which one or more of the -CH- or $-CH_2-$ groups may be replaced by appropriate heteroatom groups and which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated or substituted or unsubstituted,

and

R^3 and R^4 together with the two imine carbon atoms form a carbocylic or

heterocyclic 5- to 8-membered ring which may be saturated or unsaturated and unsubstituted, substituted or fused with further carbocyclic or heterocyclic 5- or 6-membered rings which may in turn be saturated or unsaturated and which are substituted;

M is a transition metal of group 8, 9 or 10 of the Periodic Table of the Elements,

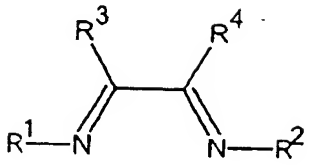
and

X is a halide or a C_1-C_6-alkyl radical;

n is the valence of the metal M.

30. (previously presented) A compound as claimed in claim 29, wherein M=Pd or Ni and n=2 or 3.

31. (previously presented) A process for preparing compounds of the formula (VI) as claimed in claim 29 by reacting corresponding compounds of the formula (I)



(I)

where R^{1-4} are defined as for formula (VI),

with salts of transition metals of groups 8, 9 and 10 of the Periodic Table of the Elements.

Accordingly, allowance is respectfully solicited.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

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